

Observatory Mesa Harvesting Guidelines:

FWPP Planned Operations – Section 6

Stand History: The majority of the Harvest Area has been harvested through numerous entries by the Arizona State Land Department over the past century. Early operations generally focused on removal of larger diameter sawtimber with several pulpwood sales occurring in the last quarter of the 20th century. Operations have resulted in fairly homogenous stands of low to marginal quality timber in the small to mid range size classes with average basal areas ranging from approximately 40-200 ft² BA per acre.

Treatment Goals:

1. Reduce the risk of catastrophic, stand-replacing wildfire by decreasing stand densities, increasing average crown base height, and decreasing crown continuity. Create conditions that are conducive to the reintroduction of low intensity surface fire. Improve understory productivity and diversity.
2. Create a more open vigorous and diverse uneven-aged forest structure with large openings and a groupy/clumpy character resembling, though not precisely replicating, the forest structure which existed prior to the interruption of the historic fire regime. Trees will be left in groups and clumps of varying shape, size, and configuration with trees of varying number, size and age classes to create a heterogeneous forest more in line with the historic range of natural variability.
3. Improve forest health by: decreasing inter-tree competition; increasing individual tree growth and vigor; increasing age and size class diversity; reducing wildfire hazard; decreasing susceptibility to disease and insect mortality; increasing understory productivity and diversity; maintain and where possible, improve wildlife habitat.

Section 6 Objectives:

1. Reduce risk of severe wildfire and promote restored ecosystem structure, function and process through tree harvesting activities.
2. Increase overall diversity of size classes and distribution.
3. Reduce overall canopy cover by approximately 55%, primarily as tree groups.
4. Create a tree group forest structure (approximately 45% of unit/stand/area),
5. Reduce average residual BA to vary between 60-80 ft² BA/A. The stand should be characterized by dense clumps (10-20%, 90-110 ft² BA), variable sized openings (approx 35.5% of the area), and the rest in “thinned stands” averaging 60-80 ft² BA/A (variability is encouraged across the thinned area).
6. Where current stand structure permits, retain tree clumps of 3-50 trees; some with interlocking crowns and multi-story structure, interspersed with openings and interspaces that more closely resembles conditions which existed prior to interruption of the historic fire regime. Clumps will be spaced at least 50ft apart with larger clumps (20-50 trees) spaced approximately 50-100ft between clumps.
7. Retain denser clumps/groups desirable for wildlife cover.

8. Create openings and increase the size of natural openings (Maximum 5 ac.)
9. Retain snags greater than 18 inches DBH and 12 feet tall unless deemed a Hazard Tree by Sale Administrator.
10. In addition, a longer-term objective is to permit establishment of natural regeneration in openings to facilitate long-term structural heterogeneity.

Cutting Guidelines:

1. Large trees will be retained where possible although trees up to 24" DBH may be removed where necessary to achieve overall desired forest structure including: encroached grasslands; within-stand openings; and within areas heavily stocked with a preponderance of large, young trees. No live yellow barked trees are permitted for removal regardless of size or condition.
2. Tree groups will occupy approximately 65% of the overall area and will range in size from 1.0-5.0 acres. Spacing between groups will typically vary between 50 to 300ft+ (exceptions may occur where larger openings are approved by the Sale Administrator). As conditions allow, the majority of tree groups will be arranged perpendicular to predominant winds, to reduce wildfire hazard.
3. Multiple tree clumps of 3-50+ trees of varying size will be scattered within each individual tree group, and will range from <0.1 – 2.0 acres in size. Stocking of each tree clump will vary between 40 - 140 ft² BA/acre, and most will have interlocking crowns. Some light thinning within a clump is permitted to reduce ladder fuels and achieve overall objectives. Trees outside of an identified clump but within an identified tree group will largely be removed, with some individual "link" trees retained in order to meet objectives.
4. Basal Area of tree clumps located within 0.4 miles south or west of homes will not exceed 80 ft² BA/acre to reduce the risk of torching and subsequent ember transmission.
5. A buffer zone with a lower basal area (50-70 ft² BA/A) will be located around the south and west sides of any tree clump exceeding 90 ft² BA/A, and will extend out at least 50 feet.
6. Individual tree clumps outside of and separate from a larger group may be located on small hilltops and rises.
7. Openings will comprise approximately 35% of the overall Harvest Area, will vary in size from 0.25 – 5.0 acres, and vary in shape and configuration. All trees within an opening which are less than 24 inches DBH are to be removed.
8. Irregular tree spacing and vertical diversity within-and-between the individual groups and clumps is desired.
9. Yellow barked pines, regardless of size), Gambel oak (regardless of size), juniper species (regardless of size), fir trees (regardless of size), pines greater than 24 inches DBH, and all large snags ($\geq 18''$ DBH and $\geq 12'$ tall) will be retained.
10. Preserve all large (greater than 18" diameter at mid-point of log) down and dead logs in original location and condition during cutting and skidding operations

Factors to consider for other trees to retain include:

- Trees in the larger size classes (≥ 16 " DBH) except where necessary to limit meadow encroachment, create or maintain intra-stand openings in areas of high BA resulting from the preponderance of large young trees;
- Dominant and co-dominant blackjack pines with good tree form and vigor;
- Any size class (≥ 1 " DBH), so as to increase vertical diversity;
- Those forming tree clumps around trees ≥ 24 " DBH;
- Those not in the most common size classes (≤ 5 " DBH and ≥ 16 " DBH), and
- Trees with obvious wildlife nesting activity (squirrel and/or bird nests);
- Trees/clumps located on small rises/hilltops;
- Trees of poor form (if no other choices exists or special "character;"
- Trees which are fading if average snag per acre count is below 4 per acre.

Factors to consider for trees to remove include:

- Trees with obvious insect or disease infestation;
- Trees with Dwarf Mistletoe Ratings of 3+ (DMR3+);
- Hazard Trees as determined by the Sale Administrator;
- Trees of the most dominant size classes;
- Trees damaged or of poor form;
- Trees which are "fading" or suppressed trees exhibiting low vigor;
- Trees surrounding oak clumps.

Special Notes:

- No skidding/driving on Loop Trail or FUTS Trail (Single perpendicular crossing only as necessary and approved by Sale Administrator).
- No cutting permitted within 650 ft. of homes between 1700 – 0800.
- No landings, log decks or slash piles are to be located within 600 ft. of any home.
- Locate piles in open areas and in such a fashion to drastically reduce chance of scorch.
- All operations will be conducted during either dry or frozen soil conditions.
- Road improvement/landings to be kept to an absolute minimum.
- No piling/landings on the water line or gas line.
- Contractor must only cross gas and water utility lines at designated crossings and perform appropriate and approved protection measures where needed.
- All Standard Specifications contained within the contract shall be adhered to.

The Purchaser shall protect all known survey and reference monuments, witness and bearing trees, telephone and power lines, fences, ditches and other improvements against damage or destruction during the Purchaser's operations. If damage or destruction does occur, the Purchaser shall be responsible for immediate restoration of the improvements to a condition satisfactory to the owner.

Section 6

Cheshire Park

180

Museum of Northern Arizona

Anasazi Ridge

Observatory Mesa Trail



Thorpe Park

Mars Hill Trail

Tunnel Springs Trail

Lowell Observatory

Thorpe Bark Park

Downtown Flagstaff

Railroad Springs

66

40
40

66

Map Explanation



Trailhead



Single Track Trail



FUTS Trails



Forest Service Road 515



Observatory Mesa Natural Area

Coconino National Forest



City Parks



0 0.25 0.5 0.75 1 Miles

Map and data provided by COF GIS Section 11/2014. The data is intended only to depict approximate locations. It should not be relied upon without proper field verification